

CLAIMS

WHAT IS CLAIMED IS:

1. A male fitting for coupling tubing segments comprising:

5 a male tube adapted to be received in a female tube, said male tube having an end and an outer wall, the outer wall including a radially outwardly extending annular flange formed thereon and an annular groove formed thereon spaced from the end
10 and the annular flange, the annular flange abutting a first o-ring to provide at least an axial seal between said male tube and the female tube and wherein the first o-ring contacts only said male tube and the female tube, the annular groove
15 receiving a second o-ring therein to provide at least a radial seal between said male tube and the female tube;

 a male fitting having an aperture formed therein adapted to receive said male tube; and
20 fastening means for securely holding said male fitting adjacent a female fitting to engage said male tube and the female tube.

2. The fitting according to claim 1, wherein
25 said fastening means is a threaded stud and a nut.

3. The fitting according to claim 1, wherein said male fitting is a block type fitting.

4. The fitting according to claim 1, wherein the first o-ring provides both an axial seal and a radial seal between said male tube and the female tube.

5 5. The fitting according to claim 1, wherein an inner diameter of said male tube within said male fitting is substantially the same as an inner diameter of said male tube outside of said male fitting.

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6. A female fitting for union with a male fitting for coupling tubing segments comprising:

15 a female tube having a flared portion adjacent a first end thereof and adapted to receive a male tube therein, the flared portion of said female tube abutting a first o-ring spaced from the first end of said female tube to provide at least an axial seal between said female tube and the male tube, said female tube having a second o-ring
20 disposed therein and spaced from the first o-ring which provides at least a radial seal between said female tube and the male tube;

25 a female fitting having an aperture formed therein adapted to receive said female tube; and

fastening means for securely holding said female fitting adjacent a male fitting to engage said female tube and the male tube.

7. The fitting according to claim 6, wherein said fastening means is a threaded stud and a nut.

8. The fitting according to claim 6, wherein
5 said female fitting is a block type fitting.

9. The fitting according to claim 6, wherein the first o-ring provides both an axial seal and a radial seal between said female tube and the male tube.

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10. The fitting according to claim 6, including a backer plate mounted adjacent said female fitting on a side opposite the male fitting.

15 11. A male fitting comprising:

a male tube adapted to be received in a first aperture formed in a component block, said male tube having an end and an outer wall, the outer wall including a radially outwardly extending
20 annular flange formed thereon and an annular groove formed thereon spaced from the end and the annular flange, the annular flange abutting a first o-ring to provide at least an axial seal between said male tube and an inner surface of the first aperture of
25 the component block and wherein the first o-ring contacts only said male tube and the inner surface of the first aperture of the component block, the annular groove receiving a second o-ring therein to

provide at least a radial seal between said male tube and the inner surface of the first aperture of the component block;

5 a male fitting having a first aperture formed therein adapted to receive said male tube; and
 fastening means for securely holding said male fitting adjacent the component block to engage said male tube and the first aperture of the component block.

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12. The fitting according to claim 11, wherein said male fitting includes a second aperture formed therein substantially aligned with a second aperture of the component block.

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13. The fitting according to claim 12, wherein said fastening means is a threaded stud having a first end and a second end, the first end of the stud threadingly engaging the second aperture of the
20 component block and the second end of the stud being inserted through the second aperture of said male fitting and having a nut threadingly disposed thereon.

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14. The fitting according to claim 11, wherein said male fitting is a block type fitting.

15. The fitting according to claim 11, wherein the first o-ring provides both an axial seal and a radial seal between said male tube and the inner surface of the first aperture of the component block.

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16. The fitting according to claim 11, wherein an inner diameter of said male tube within said male fitting is substantially the same as an inner diameter of said male tube outside of said male fitting.

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17. The fitting according to claim 11, wherein there is a pressfit between a wall forming the first aperture of said male fitting and the outer wall of said male tube.

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